

CLAIMS

1. An image processing device in which red (R) , green (G) , and blue (B) pixels, (R-pixels, G-pixels, and B-pixels) are regularly arranged in a matrix so that, based on image data from said R-, G-, and B-pixels, G-pixel data is obtained for said R-pixel or said B-pixel, said image processing device comprising:

a first correlation value calculating processor that, based on pixel data of related pixels which are positioned in the vertical and horizontal directions relative to said R-pixel or said B-pixel, each of which is an objective pixel, obtains a first correlation value relating to said objective pixel by a calculation;

a second correlation value calculating processor that obtains a second correlation value relating to four peripheral pixels which are positioned adjacent to the upper left, upper right, lower left, and lower right of said objective pixel; and

a pixel data calculating processor that obtains vertical and horizontal correlations of pixel data of said objective pixel based on said first correlation value and said second correlation value, said pixel data calculating processor obtaining the G-pixel data of said objective pixel, using pixel data of said G-pixel, and one of said R-pixel and said B-pixel positioned in a vertical direction of said

objective pixel, when said vertical correlation is greater than said horizontal correlation, said pixel data calculating processor obtaining the G-pixel data of said objective pixel, using pixel data of said G-pixel, and one of said R-pixel and said B-pixel positioned in a horizontal direction of said objective pixel, when said horizontal correlation is greater than said vertical correlation.

2. An image processing device according to claim 1, wherein said pixel data calculating processor obtains said vertical and horizontal correlations, based on a correlation coefficient obtained by multiplying different coefficients by said first correlation value and said second correlation value.

3. An image processing device according to claim 1, wherein said second correlation value is obtained based on first absolute values of the differences between G-pixel data of G-pixels adjacent to the right and left of each of said peripheral pixels, and second absolute values of the differences between G-pixel data of G-pixels adjacent to the upper and lower sides of each of said peripheral pixels.

4. An image processing device according to claim 1, wherein said second correlation value is obtained based on the sum of third absolute values of the differences between G-pixel data of G-pixels adjacent to the right and left of said four peripheral pixels, and the sum of fourth absolute values of

the differences between G-pixel data of G-pixels adjacent to the upper and lower sides of each of said four peripheral pixels.